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ABSTRACT

This study focused on the role of family communication patterns as they affect children's academic achievement, as determined by grades. Sixty-two children (average age: 11.6 years) and their parents were observed and videotaped in dyadic settings (mother-child, father-child) in their homes while discussing everyday topics presented to them in a structured situation. Communication behavior in the parent-child dyads was scored from the tapes according to a category system developed to cover formal, verbal-communicative, and non-verbal aspects of the communication. The children were divided into three groups according to their average grades: high, medium, and low. Analysis of the frequency distributions of the communication aspects revealed significant differences between groups with different grades as well as between dyadic settings. Both parents and children exhibited differential patterns of communication behaviors according to children's level of academic achievement. For example, discussions between parents and their children were more relaxed and displayed a much easier way of negotiating diverse standpoints in families where children had high grades than was the case in families with children who had low grades. Higher grades were also associated with a more egalitarian structure in the dyadic setting and active participation of children in the discussions. Strong hierarchy in the dyads and high tension during discussion marked families with students who had low-grades. (Author/EV)

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The Quality of Family Communication and Academic Achievement in Early Adolescence

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ABSTRACT

The study focuses on the role of communication patterns inside the family for children's academic achievement. Both children and parents pay considerable attention to the outcomes of school achievement, the grades. Thus, grades can be taken as a criterion when possible links between parent-child communication patterns and children's achievement in school are explored. Sixty two children (average age 11,6 years) and their parents were observed and videotaped in dyadic settings (mother-child, father-child) in their homes when discussing everyday topics that were presented to them in a structured situation. Communication behavior in the parent-child dyads was scored from tape according to a category system developed to cover formal, verbal-communcative, and non-verbal aspects of the communication behaviors of parents and children during discussions. The children were divided in three groups according to their average grades: high, medium, low grades.

Log-linear analyses of the frequency distributions of the single communication aspects revealed significant differences between groups with different grades as well as between dyadic settings. Both parents and children exhibited differential patterns of communication behaviors according to children's level of academic achievement. For example, discussions between parents and their children were more relaxed and displayed a much easier way to negotiate diverse standpoints in families where children had high grades than this was the case in families with low-grade children. By the same token were higher grades associated with a more egalitarian structure in the dyadic setting and active participation of children in the discussions. Strong hierarchy in the dyads and high tension during discussion marked families with low-grade students.

INTRODUCTION

Research on academic achievement has considered a variety of factors that are either school-centered, such as organization of school or teaching styles, or person-oriented, such as intelligence, achievement motivation, or social competence of students. The impact of the family as another important component for achievement seems often to be reduced to some macro-social variables such as parental income, working conditions, and level of education. These approaches have neglected an entire area of microsocial variables that might be highly influential for students' differential school careers: The children's experiences from inside the family. How *specific patterns of communication within the family* might be linked to children's classroom behavior and school achievement is still a matter to be explored in more detail.

Although empirical evidence exists on the effects of family structure, parent-child relationship quality, or different parenting styles on academic achievement (Elder, & Russell, 1996; Ryan, Stiller, & Lynch, 1994; Steinberg, Elmen, & Mounts, 1989), only few efforts have been made to further disentangle these indicators of the family's particular power to direct the child's developmental course. Two research groups did observe concrete family communications and related specific interaction patterns in the family to particular formats of identity development in adolescence (Hauser et al. 1984, Grotevant & Cooper, 1985). As a general result, two fundamentally different communication styles such as "enabling" and "constraining/disabling" appear to strongly affect the individual adolescent's ego development. Comparable results were found in other studies. For example, in a longitudinal study Feldman, & Wentzel (1990) could demonstrate that eleven year old boys' classroom behavior and academic achievement was influenced by family interaction patterns. A negative effect from hostility in father-child interaction was associated with self-restraint and grades, whereas mothers' appropriate control behavior seems to have a positive impact.

AIMS

The study explores possible links between elements of family communication and children's school achievement. Parent-child discussions about everyday issues are expected to display different patterns of communication. It is a major goal in this study to isolate elements of communication behavior which distinguish between families with children differing in their average school grades. The forming of three groups according to high, medium, or low school grades is believed to help find particular elements in interaction behavior and communication styles that allow a more discriminate analysis of children's differential experiences within their families. Moreover, a separate analysis of both mother-child and father-child communication in dyadic settings may further elucidate the interplay of similar or divergent styles affecting a child's academic career.

The main questions were:

Are there particular elements in parent-child communication about everyday issues that occur with divergent frequencies in different groups determined by the quality of school achievement?

Can elements of differential communication behavior be combined to generate units of parenting styles that characterize family interaction in high versus low school achievers?

To what extent do father-child and mother-child communication patterns have a different impact on children's school grades?

METHOD

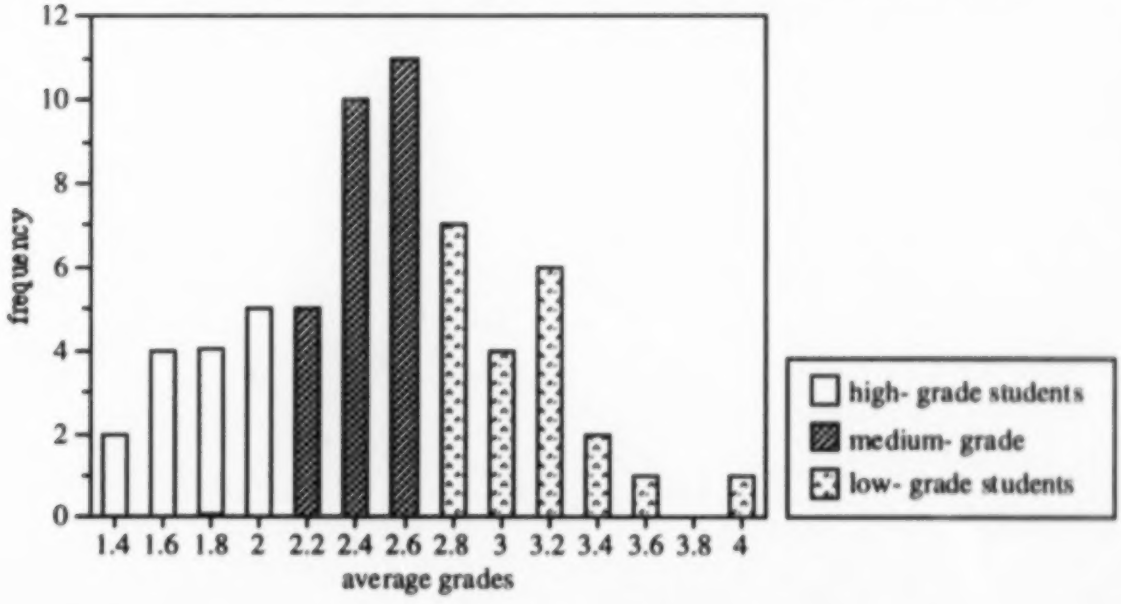
Sample

Sixty two of the original sixty seven families of the longitudinal sample included in the study "From childhood to adolescence in the family" (Kreppner, 1995) participated in this study. Five families had sent their children into particular schools (Waldorf-Schools) where no traditional grades were given. The mean age of the children was 11,6 years at the first wave, the sample split into 31 female and 31 male adolescents.

Formation of Three Groups with different School Achievement

During the second, third, and fourth wave of data collection, children were asked to write the various marks of their half-year reports on forms that were administered as part of the project's data collection. Intercorrelations across the three individual average grades were .80, .71, .65. The overall mean level served as the basis for the children's grouping according to their average grades into a high, medium, and low grader group (Fig. 1). The three groups do not differ in their distribution of gender (Tab. 1) or family structure (Tab. 2).

Fig. 1: **Three Groups of Families according to the Average Grades of Children**



Tab. 1:

Distribution of Gender in Groups of High, Medium, and Low-Grade Students

	Girls	Boys	total
high (group 1)	12	8	20
medium (group 2)	10	11	21
low (group 3)	9	12	21
total	31	31	62

Chi^2=1.28; df=2; p=.53

Tab. 2:

Distribution of Family Structure in Groups of High, Medium, and Low-Grade Students

	Two-Parent Families	Single-Mother Families	total
high (group 1)	12	8	20
medium (group 2)	16	5	21
low (group 3)	11	10	21
total	39	23	62

Chi^2=2.74; df=2; p=.26

Observation Procedure and Coding

Communication behavior was observed and videotaped in structured situations in the families' homes. Everyday topics presented on eleven stimulus cards per dyad were discussed in mother-child and father-child dyads separately. Participants were instructed to read the statements from the cards aloud and to discuss each issue for about two minutes. The eleven discussions per dyad served as observational units and were the basis for this study's analysis of communication behavior in family dyads. Each discussion between parent and child was coded with regard to a number of communication aspects covering formal, communicative, and nonverbal dimensions (for more details see Kreppner & Ullrich 1996). Reliabilities were obtained by computing Cohen's Kappa coefficients from two trained raters' independent parallel ratings of about 15 percent of the parent-child discussions (Tab. 3).

Tab. 3:

Coding Categories and Cohens' Kappa

formal aspects: Time used	0-1 , 1-2, 2-3, 3- ∞ minutes	**Kappa** .91
Taker of card	parent, adolescent, nobody	.93
communication aspects: Hierarchy	egalitarian, long leash, hierarchical	.75
Communication Style Parent/Adolescent	statement, attention, teaching (Parent)/ silence (Adolescent), negotiation	Par: .85 Ado: .92
nonverbal aspects: Tension Parent/ Adolescent	very low, low, high, very high	Par: .80 Ado: .75
Closeness Parent/ Adolescent	very low, low, high, very high	Par: .58 Ado: .78

Data Analysis

1. Log-linear models were determined for each three dimensional cross-tabulation. The following variables were included:

S = group of school achievement

1 = families with high-grade students
2 = families with medium-grade students
3 = families with low-grade students

C = Constellation

1 = mother-adolescent
2 = father-adolescent

O = Observational Category

Models with a probability greater .05 were selected. Saturated models consist of three two-way (SO, CO, SC) and one three-way interaction term (SOC). Models including the SO and CO interaction terms are expected.

2. Parameter estimates for the selected models

Significant differences between the cell frequencies are indicated by the parameter estimates, which were computed after the model selection. Interpretation of the results follows the significant differences indicated by parameters with $1.96<z<-1.96$ that are significant on the 5% level.

RESULTS

All log-linear models that have been selected include an interaction term communication behavior by school achievement (SO) indicating that adolescents with different average grades in school achievement do exhibit dissimilar communication behaviors and also experience particular formats of communication when discussing with their parents (Tab. 4). As a general result, differences between mother-child and father-child dyads were found across all groups, both without association to grade levels, as this is manifest in models with a (CO) term, and with relationship to their children's school achievement level, as this is the case in all communication aspects where the saturated model with the (SOC) term was selected. Some frequency distributions showing major differences across groups are presented in more detail:

Taker
Students of group 1 (high grades) take more often the card in discussions with their parents than the other students (Fig. 2).

Hierarchy
Father-adolescent dyads of group 3 (low grades) show the highest level of hierarchical and the lowest level of egalitarian interaction. Despite the fact, that mother-adolscent dyads are generally less hierarchical, they have the same tendency as the father dyads: the more hierarchical the discussion, the worse the grades (Fig. 3).

Communication Style Parents and Adolescents
Fathers of high-grade students apply less frequently the communication style of just giving "statements" to their children or use far less the mode of "teaching" when discussing with their offspring than this is the case in the other two groups including medium or low graders. Moreover, differences across groups were also found when adolescents' behaviors in dyadic discussions were compared. The more adolescents use the communication strategy of "negotiating" when discussing with their parents, the better are their grades in school. Moreover, the "silent" category in communication behvior applies much less to describe children with high grades compared to medium or low grading children (Fig. 4).

Tension Adolescents
When talking with their fathers, low-grade students exhibited the highest frequencies in the category "high tension" (Fig. 5).

Closeness Parents
Fathers of low-grade students displayed "low closeness" more often and "high closeness" less often than did fathers in the other two groups (Fig. 6).

Tab. 4:

Log-linear Models with a p>.05

Category	Model	df	LR	sig.
formal aspects:				
Time used	SO, CO, SC	6	12.85	0.05
Taker	C, SO	5	3.87	0.57
communication aspects:				
Hierarchy	sat.			
Communication Style Parent	sat.			
Communication Style Adol.	sat.			
nonverbal aspects:				
Tension Parent	SO, CO	8	13.47	0.10
Tension Adolescent	sat.			
Closeness Parent	SO, CO, SC	6	11.94	0.06
Closeness Adolescent	C, SO	11	11.41	0.41

C = main effect constellation
SO = interaction school achievement-observation
CO = interaction constellation-observation
SC = interaction school achievement-constellation
sat. = saturated model

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Fig. 2:

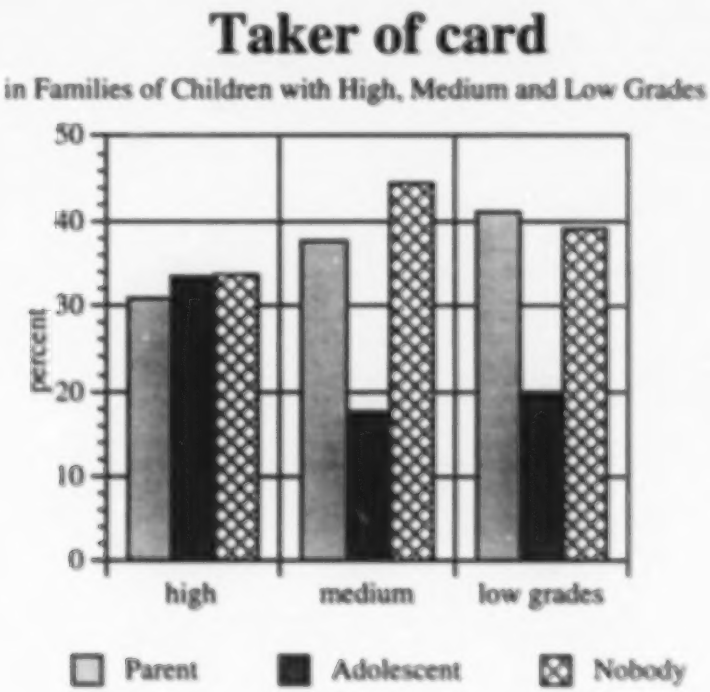

Taker of card
in Families of Children with High, Medium and Low Grades
50
40
30
20
10
0
percent
high
medium
low grades
Parent
Adolescent
Nobody

Fig. 3:

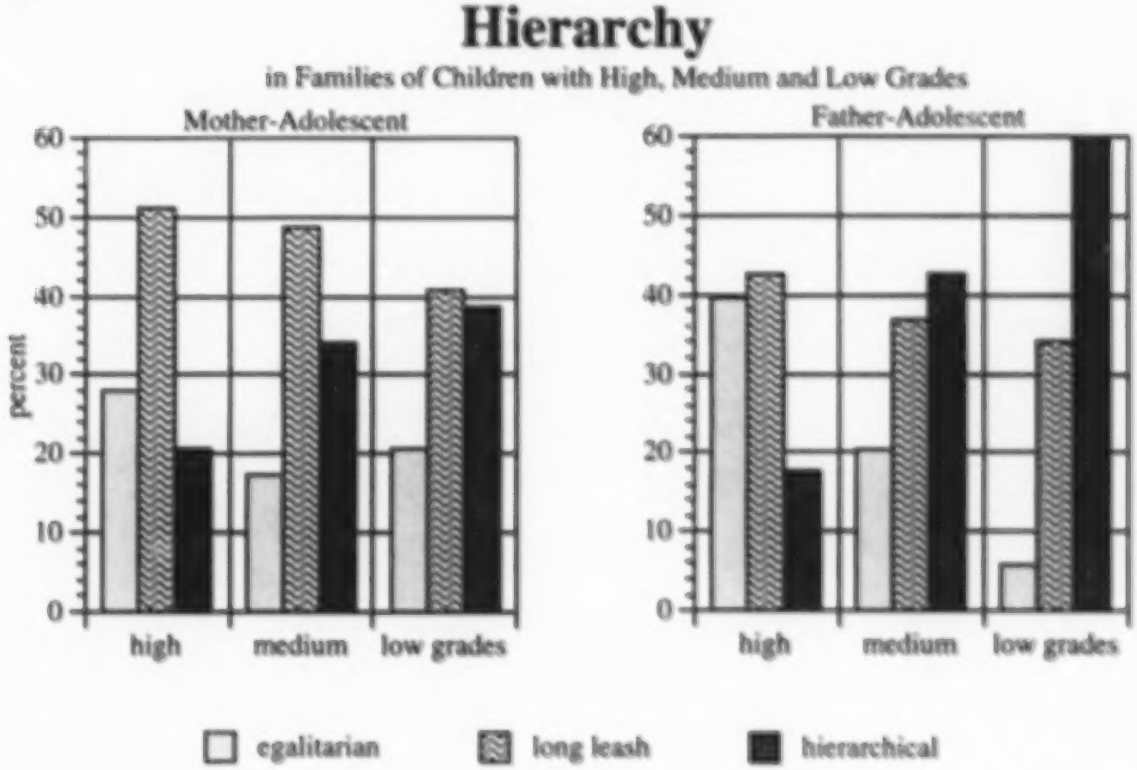

Hierarchy
in Families of Children with High, Medium and Low Grades
Mother-Adolescent
Father-Adolescent
60
50
40
30
20
10
0
percent
high
medium
low grades
egalitarian
long leash
hierarchical

Fig.4:

Communication Style

in Families of Children with High, Medium and Low Grades

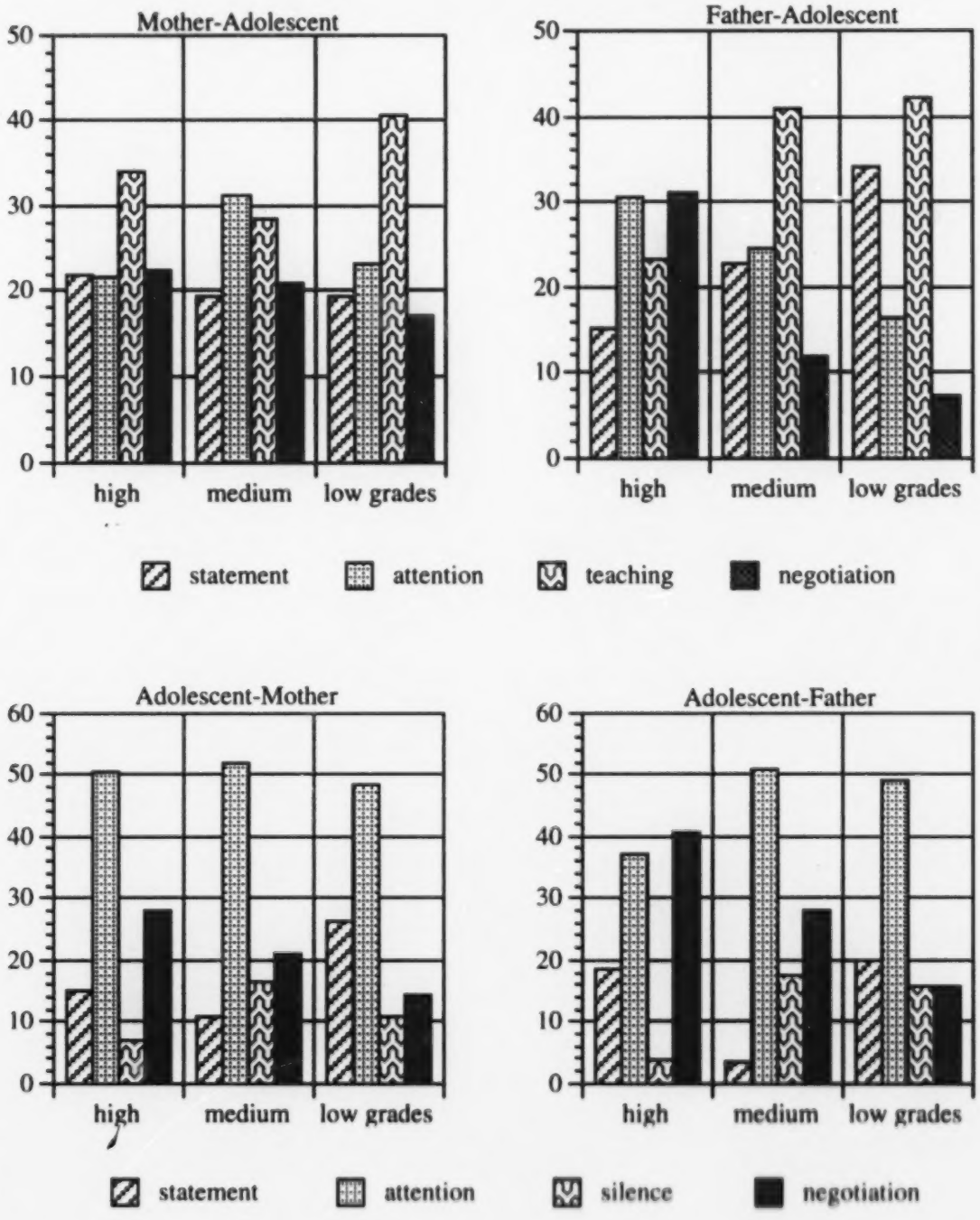


Fig. 5:

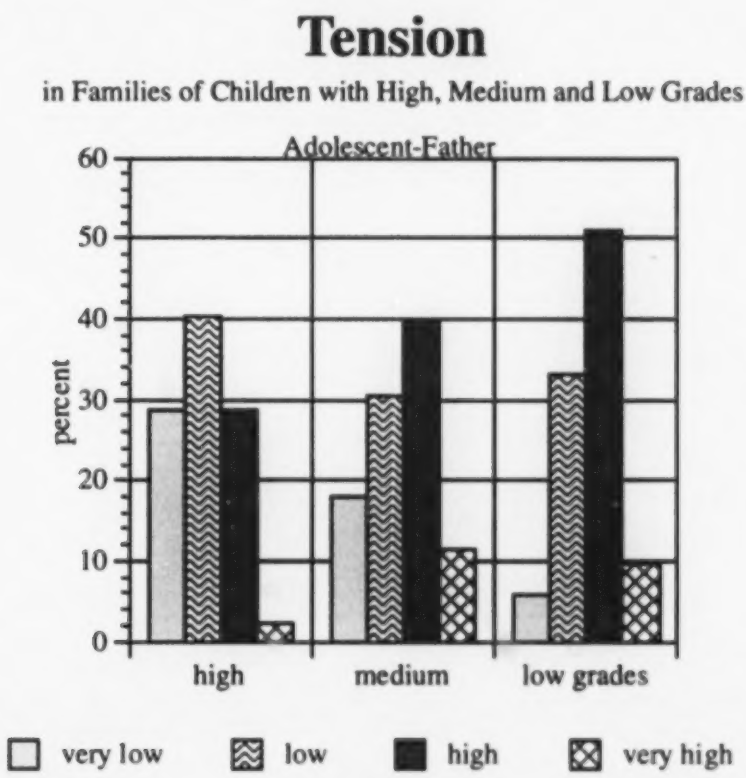
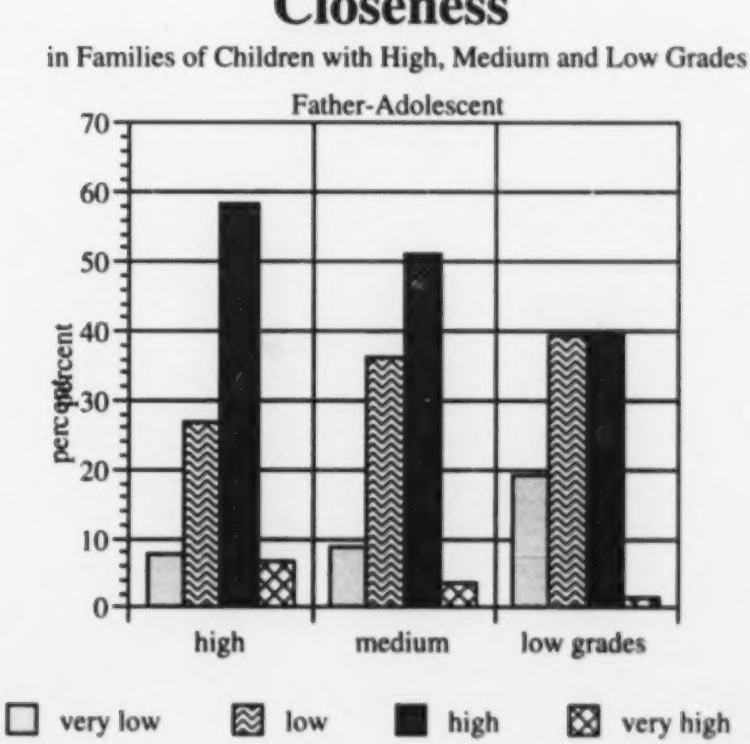

Tension
in Families of Children with High, Medium and Low Grades
Adolescent-Father
60
50
40
30
20
10
0
percent
high
medium
low grades
very low
low
high
very high

Fig. 6:


Closeness
in Families of Children with High, Medium and Low Grades
Father-Adolescent
70
60
50
40
30
20
10
0
percent
high
medium
low grades
very low
low
high
very high

DISCUSSION

Differences in various aspects of parent-child communications at home were found to be associated with differences in children's school achievement. Therefore, it can be concluded that adolescents with a different experience in school achievement are also exposed to dissimilar formats in communication behavior within the family when everyday issues are discussed. Within the scope of this general description of results, mothers and fathers show rather distinct patterns when discussing with their children: Contrasts across grade groups are stronger when fathers' communication patterns are considered. For example, fathers of low graders communicate in a hierarchical, emotionally distanced way with adolescents who are, in their turn, either silent as discussion partners or use to make "statements" during discussions, that is, they do not refer to their partners' arguments. In addition, adolescents in low graders' families only very rarely experience a communicaton climate that can be described as being relaxed and providing emotional closeness with communication partners. Results also indicate that a climate of higher emotional closeness in a discussion dyad combined with a communicaton style applying the mode of negotiation is linked to a general higher frequency of activity and mutuality in parent-child exchanges. These modes of communication are found more frequently in families where adolescents have higher grades. When compared with other studies such like those conducted by Hauser et al. (1994) or Grotevant and Cooper (1985), the overall interpretations of differences across groups can also be characterized by terms like "enabling" versus "constraining" or "disabling" patterns of communication. However, results in this study illuminate in more detail the complex configuration of single communication aspects in families and their associations to the relevant outcome variable academic achievement during early adolescence.

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